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**Datasheet for the decision
of 20 August 2013**

Case Number: T 0572/11 - 3.2.07

Application Number: 06101060.9

Publication Number: 1813533

IPC: B65B 61/18

Language of the proceedings: EN

Title of invention:

Modular unit for applying opening devices to packages of pourable food products

Patent Proprietor:

Tetra Laval Holdings & Finance S.A.

Opponent:

SIG Technology AG

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56

RPBA Art. 13(1)

Keyword:

"Novelty - yes, no direct and unambiguous disclosure concerning modular structure of known unit"

"Inventive step - no, general technical knowledge concerning modular design approach to be considered to improve versatility of known unit"

Decisions cited:

-

Catchword:

-



Case Number: T 0572/11 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 20 August 2013

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted
17 January 2011 concerning maintenance of
European patent No. 1813533 in amended form.**

Composition of the Board:

Chairman: H. Meinders
Members: H.-P. Felgenhauer
I. Beckedorf

Summary of Facts and Submissions

I. The proprietor (appellant I) and the opponent (appellant II) filed an appeal against the decision of the opposition division maintaining European patent No. 1 813 533 in amended form.

Appellant I requested that the decision under appeal be set aside, that the patent be maintained as granted and that the appeal of appellant II be dismissed or, alternatively, in setting aside the decision under appeal the patent be maintained in amended form on the basis of one of the sets of claims filed as second auxiliary request with letter dated 19 July 2013, as third auxiliary request during the oral proceedings and as fourth auxiliary request with letter dated 19 July 2013.

Appellant II requested that the decision under appeal be set aside, that the European patent be revoked and that the appeal of appellant I be dismissed.

II. Claims

Claim 1 according to the **main request** (of the patent as granted) reads as follows:

"A modular unit (1, 1`) for applying opening devices (2, 2`) to packages (3) of pourable food products, comprising:
- first conveying means (8, 8`) for feeding said opening devices (2, 2`) successively along a first path (P₁, P_{1`});

- second conveying means (9) for feeding said packages (3) successively along a second path (P₂);
- transfer means (10) for transferring said opening devices (2, 2') along a third path (P₃) from a pickup station (11) located along said first path (P₁, P_{1'}), to an application station (12) for applying the opening devices (2, 2') to respective said packages (3) and located along said second path (P₂); and
- processing means (41, 90) for performing specific operations on said opening devices (2, 2') prior to application of the opening devices (2, 2') to the respective packages (3);

characterized in that said transfer means (10) define a base module (M₁) of said unit (1, 1'), and in that said processing means comprise different types of processing devices (41, 90) forming part of different auxiliary modules (M₂, M₄) selectively connectable to said base module (M₁) to define different units (1, 1') for applying said opening devices (2, 2') to respective said packages (3)".

Claim 1 according to the **first auxiliary request** (as maintained by the opposition division) reads as follows:

"A modular unit (1, 1') for applying opening devices (2, 2') to packages (3) of pourable food products, comprising:

- first conveying means (8, 8') for feeding said opening devices (2, 2') successively along a first path (P₁, P_{1'});
- second conveying means (9) for feeding said packages (3) successively along a second path (P₂);

- transfer means (10) for transferring said opening devices (2, 2`) along a third path (P₃) from a pickup station (11) located along said first path (P₁, P_{1`}), to an application station (12) for applying the opening devices (2, 2`) to respective said packages (3) and located along said second path (P₂); and
 - processing means (41, 90) for performing specific operations on said opening devices (2, 2`) prior to application of the opening devices (2, 2`) to the respective packages (3); wherein
 - said transfer means (10) define a base module (M₁) of said unit (1, 1`); and
 - said processing means comprise different types of processing devices (41, 90) forming part of different auxiliary modules (M₂, M₄) selectively connectable to said base module (M₁) to define different units (1, 1`) for applying said opening devices (2, 2`) to respective said packages (3);
- characterized in that
- said first conveying means (8, 8`) define different auxiliary modules (M₂, M₅) for operating with different types of opening devices (2, 2`) and selectively connectable to said base module (M₁)".

Claim 1 according to the **second auxiliary request** reads as follows:

"A modular unit (1, 1`) for applying opening devices (2, 2`) to packages (3) of pourable food products, comprising:

- first conveying means (8, 8`) for feeding said opening devices (2, 2`) successively along a first path (P₁, P_{1`});

- second conveying means (9) for feeding said packages (3) successively along a second path (P₂);
- transfer means (10) for transferring said opening devices (2, 2') along a third path (P₃) from a pickup station (11) located along said first path (P₁, P_{1'}), to an application station (12) for applying the opening devices (2, 2') to respective said packages (3) and located along said second path (P₂); and
- processing means (41, 90) for performing specific operations on said opening devices (2, 2') prior to application of the opening devices (2, 2') to the respective packages (3); said processing devices comprising respective dispensing members (41, 90) for coating each said opening device (2, 2') with adhesive characterized in that
 - said transfer means (10) define a base module (M₁) of said unit (1, 1');
 - said processing means comprise different types of processing devices (41, 90) forming part of different auxiliary modules (M₂, M₄) selectively connectable to said base module (M₁) to define different units (1, 1') for applying said opening devices (2, 2') to respective said packages (3);
 - said first conveying means (8, 8') define different auxiliary modules (M₂, M₅) for operating with different types of opening devices (2, 2') and selectively connectable to said base module (M₁);
 - at least one (M₂) of said auxiliary modules (M₂, M₄) comprises the respective said processing device (41) and said first conveying means (8); said dispensing member (41) of said one (M₂) of said auxiliary modules (M₂, M₄) comprising at least one dispensing gun (42) located along said first path (P₁) and which travels

along a predetermined path to distribute adhesive on each said opening device (2); and

- said dispensing member of another (M_4) of said auxiliary modules (M_2, M_4) comprises a coating roller (90) covered with said adhesive, located along said third path (P_3), and cooperating in rolling manner with said opening devices (2`)"

Claim 1 according to the **third auxiliary request** reads as follows:

"A modular unit (1, 1`) for applying opening devices (2, 2`) to packages (3) of pourable food products, comprising:

- first conveying means (8, 8`) for feeding said opening devices (2, 2`) successively along a first path ($P_1, P_1`$);
- second conveying means (9) for feeding said packages (3) successively along a second path (P_2);
- transfer means (10) for transferring said opening devices (2, 2`) along a third path (P_3) from a pickup station (11) located along said first path ($P_1, P_1`$), to an application station (12) for applying the opening devices (2, 2`) to respective said packages (3) and located along said second path (P_2); and
- processing means (41, 90) for performing specific operations on said opening devices (2, 2`) prior to application of the opening devices (2, 2`) to the respective packages (3); said processing devices comprising respective dispensing members (41, 90) for coating each said opening device (2, 2`) with adhesive characterized in that
- said transfer means (10) define said base module (M_1) of said unit (1, 1`);

- said processing means comprise different types of processing devices (41, 90) forming part of different auxiliary modules (M_2, M_4) selectively connectable to said base module (M_1) to define different units (1, 1`) for applying said opening devices (2, 2`) to respective said packages (3);

- said first conveying means (8, 8`) define different auxiliary modules (M_2, M_5) for operating with different types of opening devices (2, 2`) and selectively connectable to said base module (M_1);

said modular unit (1, 1`) is arranged in at least two configurations for applying two different types of opening devices (2, 2`) to respective packages (3); in said first configuration, said modular unit (1) comprising:

- said base module (M_1) in turn comprising a conveyor wheel (10) and a central body (16) of a supporting structure (15) of said unit (1, 1`);

a first auxiliary module (M_2) connectable to said base module (M_1) and in turn comprising a supporting beam system (22), a first conveyor (8) of said first conveying means (8, 8`) and at least one dispensing gun (42) located along said first path (P_1) and which travels along a predetermined path to distribute adhesive on a first type of opening devices (2); and

- a second auxiliary module (M_3) comprising a second conveyor (9) of said second conveying means and connectable to said base module (M_1);

in said second configuration, said modular unit (1`) comprising:

- said base module (M_1) in turn comprising a conveyor wheel (10) and a central body (16) of a supporting structure (15) of said unit (1, 1`);

- a third auxiliary module (M₄) comprising a coating roller (90) covered with said adhesive, located along said third path (P₃), and cooperating in rolling manner with a second type of opening devices (2`); and
- a fourth auxiliary module (M₅) comprising a third conveyor (8`) of said first conveying means fitted to a supporting beam system (22`) in turn fixable to a top beam system (32) of said central body (16) of said supporting structure (15); said third conveyor (8`) operating with a second type of opening devices (2, 2`)"

Claim 1 according to the **fourth auxiliary request** reads as follows:

"A modular unit (1, 1`) for applying opening devices (2, 2`) to packages (3) of pourable food products, comprising:

- first conveying means (8, 8`) for feeding said opening devices (2, 2`) successively along a first path (P₁, P_{1`});
- second conveying means (9) for feeding said packages (3) successively along a second path (P₂);
- transfer means (10) for transferring said opening devices (2, 2`) along a third path (P₃) from a pickup station (11) located along said first path (P₁, P_{1`}), to an application station (12) for applying the opening devices (2, 2`) to respective packages (3) and located along said second path (P₂); and
- processing means (41, 90) for performing specific operations on said opening devices (2, 2`) prior to application of the opening devices (2, 2`) to the respective packages (3);

characterized:

- in that said transfer means (10) define a base module (M_1) of said unit (1, 1`); and
- said processing means comprise different types of processing devices (41, 90) forming part of different auxiliary modules (M_2, M_4) selectively connectable to said base module (M_1) to define different units (1, 1`) for applying said opening devices (2, 2`) to respective said packages (3);

said base module (M_1) comprising a wheel (18) rotating about an axis (A), and at least one gripping member (19, 19`) fitted to said wheel (18) and for receiving one opening device (2, 2`) at a time from said first conveying means (8, 8`) and transferring it to said second path (P_2) as said wheel (18) rotates;

said base module (M_1) also comprising connecting means (20) for connecting said gripping member (19, 19`) movably to said wheel (18), and guide means (21) for altering the position of said gripping member (19, 19`) with respect to said wheel (18) as the wheel (18) rotates".

III. The following documents of the opposition proceedings have been taken into account:

D3 US-B-6 205 746

D4 EP-A-0 842 041

and as filed in the appeal proceedings:

D7 Paper Dr.-Ing. H. Grzonka "Modulare Automatisierung zahlt sich aus" Tagungsband"

Elektrisch-mechanische Antriebssysteme" 6. - 7.
Oktober 2004 in Fulda, VDE Verlag GmbH

D8 ZA-A-040810.

IV. According to the impugned decision the modular unit defined by claim 1 of the patent as granted lacks novelty with respect to D3 (reasons, point 2.1). This result was obtained considering that this claim does not comprise "specific features in the claim showing modularity" and that thus "the word "modular" is to be understood in its large meaning of exchangeable/replaceable". The disclosure of D3 was considered as encompassing not only all structural elements referred to in claim 1 but also their arrangement in a base module and auxiliary modules. In this respect it was concluded that "the components of D3 may very well be regarded as "modules".

Transfer means defining a base module were considered as implicitly disclosed by D3 referring to a housing "providing an enclosed controlled environment" (col. 4, line 36), which was understood to be a base module.

The subject-matter of claim 1 of the patent as maintained was considered novel due to the features that it involved also "a unit for applying opening devices comprising conveying means defining different modules for operating with different types of opening devices and which are selectively connectable to a base module".

The unit according to this claim 1 was furthermore considered to involve inventive step starting from D3

as closest prior art and further considering i.a. D4 and general technical knowledge (reasons, points 3.1, 3.2).

V. The submissions of appellant I can be summarized as follows:

- (a) Concerning the subject-matters of the claims 1 of all requests it needs to be taken into account that the modular structure according to these claims relates to self-contained modules each serving one or more particular function(s) and encompassing one or more elements. The modules constitute a base module as well as auxiliary modules which are selectively connectable with the base module. Due to the modular structure of the unit its auxiliary modules are connectable solely via respective interface(s) without modification of the modules as such being required.
- (b) The subject-matters of the claims 1 of all requests furthermore define, depending on the particular auxiliary modules attached to the base unit, different units. This implies that the definition of different units for applying opening devices was, from the very beginning of the design process, a design objective, which is met by the units according to the claims 1 of all requests.
- (c) The modular design of the units allows, irrespective of particular specifications to be met by a unit due to e.g. customer requirements, that a common base unit can be provided in the sense of a common or standard design platform

whereas specific requirements for an individual unit are met in that the proper auxiliary units are attached to this base unit. This leads to a reduction in the manufacturing costs as well as a significant gain in time when a unit in use is to be changed to a different one, by selective connection of auxiliary units. The capability to define different units as required thus increases their versatility.

- (d) The modular unit of claim 1 according to the main request is novel over the unit of D3 since this document does not disclose a unit with a modular structure.
- (e) Documents D7 and D8 should not be admitted due to their late filing and since they are not more relevant than the prior art already taken into account. This is apparent since none of these documents relates to a unit for applying opening devices to packages.
- (f) In case D7 and D8 are admitted as evidence for general technical knowledge the case should be remitted for further prosecution to the opposition division.
- (g) The second to fourth auxiliary requests should be admitted since their claims 1 even more precisely define the modular structure of the modular unit of claim 1 of the main request and of the first auxiliary request.

- (h) The modular unit of claim 1 according to the main request solves, in view of document D3, the problem to provide a more versatile unit, which due to its modular structure allows quick and easy adaptation of the unit in case different types of opening devices have to be applied. The solution according to claim 1 involves an inventive step since neither D3 considered by itself nor in combination with D4 gives an indication in this direction.

- (i) This applies likewise if general technical knowledge derivable from D7 or D8 is taken into consideration since from such general technical knowledge no indication can be derived which would lead to the unit of D3 to be redesigned as a modular unit from an earlier design stage on.

- (j) The arguments given with respect to the modular unit according to claim 1 of the main request apply all the more concerning the subject-matters of the claims 1 of the auxiliary requests since the available prior art and the general technical knowledge can even less be considered as leading to modular units comprising a base module and auxiliary modules as defined and combined by these claims.

VI. The submissions of appellant II can be summarized as follows:

- (a) D3 discloses a unit for applying opening devices comprising all components of the unit defined by claim 1 of the main request. In D3 it is

explicitly stated that alternative processing devices can be used. Since claim 1 merely refers to a modular structure comprising a base module and auxiliary modules incorporating different types of processing devices and the alternatively usable processing devices of D3 can be considered as auxiliary modules the remainder of the transfer means then being the base module, the subject-matter of claim 1 lacks novelty over D3.

- (b) This applies irrespective of whether the modular unit of claim 1 of the main request is considered as a result of a design objective which is in any case to be considered at the outset of the design process, to increase the versatility of such units.
- (c) Documents D7 and D8 should be admitted irrespective of their late filing since they are evidence for the general technical knowledge concerning the modular structure of machines, including packaging machines. This general technical knowledge is *prima facie* relevant with respect to the subject-matters of claims 1 of all requests since it leads, starting from the unit(s) of D3, to the conclusion that these subject-matters do not involve inventive step.
- (d) Since the general technical knowledge, for which D7 or D8 give the evidence, can be considered without much effort, their introduction does not significantly change the factual framework to be considered and should not be a surprise, it can be dealt with in the appeal proceedings. There is

thus no justification for a remittal in case D7 and D8 are admitted.

- (e) The fourth auxiliary request should not be admitted due to its late filing and since its claim 1 is not further limited in the same direction as was the case for the claims 1 of the previous requests.

- (f) Starting from the unit(s) of D3 as closest prior art and considering the general technical knowledge as evidenced by D7 or D8 with respect to the modular design of units of packaging machines it is apparent that the subject-matters of the claims 1 according to all requests do not involve inventive step. Concerning the subject-matters of the claims 1 of the auxiliary requests it is evident that the features added when compared to claim 1 according to the main request are the result of a straightforward application of the generally known modular design approach for the unit(s) as disclosed in D3.

VII. According to the preliminary opinion given in the annex to the summons to oral proceedings (in the following: the annex) the Board *inter alia* addressed the issue of how the expression modular is to be understood (point 7.1.3) and of novelty of the subject-matter of claim 1 according to the main request (points 7.3.1 and 7.3.2). The features of claim 1 directed to the modular structure of the unit were seen as distinguishing features over the unit of D3. Concerning the examination of inventive step starting from the unit of D3 as closest prior art the question was raised whether

general technical knowledge has to be taken into account with respect to the modular structure of the unit of claim 1 (point 7.5).

VIII. Oral proceedings before the Board were held 20 August 2013.

Reasons for the Decision

1. *Subject-matter of claim 1 according to the main request (claim 1 of the patent as granted)*

The Board concurs, as indicated in the annex and during the oral proceedings, with the understanding of the term "modular" of appellant I, with the understanding of the modular structure of the unit of claim 1 comprising a base module and different auxiliary modules selectively connectible to the base unit to define different units and with the effects resulting from this modularity as referred to by appellant I (cf. points V (a) - (c) above). Appellant II did not object to these findings.

2. *Disclosure of D3*

- 2.1 It is, so far in line with the impugned decision (cf. point IV above), common ground that D3 discloses a unit comprising all structural elements referred to in claim 1.

- 2.2 The parties are of divided opinion with regard to the issue of whether or not D3 discloses that the

structural elements are arranged in the modular manner defined in claim 1.

According to appellant I D3 does not disclose such a modular structure since there is no disclosure of an arrangement of the structural elements in a base module and auxiliary modules, which are selectively connectable to the base module to define different units.

According to appellant II D3 discloses at least implicitly that the units disclosed therein are of modular structure.

- 2.3 Both parties essentially relied on the portion of the description of D3 (column 5, lines 7 - 22) which reads as follows:

"The hot melt dispenser 28 applies on (sic) predetermined quantity of hot melt to the back of each of the fitments 40. Preferably, the hot melt may be applied to only a flange portion of the fitment 40. The hot melt provides the adhesive necessary for the fitment 40 to be attached to the carton 50. The hot melt may include a tank, a hose and a dispenser gun (all of which are not shown). The operating temperature may vary from 180 degrees Celsius to 200 degrees Celsius. Alternatively, the hot melt dispenser 28 may be replaced with another means for adhesion of a fitment 40 to a carton 50. One possibility would be to substitute a fitment heater for the hot melt dispenser 28. Such an alternative would heat the back of the fitment 40 through forced hot air or current induced heating in order to impart sufficient heat to the

fitment 40 to commence melting of the thermoplastic fitment 40".

The parties furthermore relied on dependent claims 8 and 9 referring to "dispensing hot melt to the back of the fitment" and to "heating the back of the fitment to a temperature greater than the melting temperature of the fitment".

2.3.1 According to appellant I the mere reference to different means for the provision of adhesive on the fitments (which latter correspond to the opening devices referred to in claim 1 of the patent in suit) cannot be understood as a disclosure of a - in general - modular structure of the unit of D3. D3 can even less be considered as disclosing the - particular - modular structure of claim 1, namely that different auxiliary modules are **selectively** connectable to a base module to define different units. As compared to the modular structure of the unit of claim 1, which is the result of a corresponding design objective applicable to the design of the complete arrangement, the modifications referred to in D3 can only be considered as relating to changes made to an existing machine, which is insignificant compared to the overall design of such a machine.

2.3.2 According to appellant II the disclosure of D3 clearly teaches the skilled person that different processing devices can be selectively connected to a base unit, wherein the core part of the unit remains unaffected by the change with respect to the manner in which the opening devices are applied to packages. Thus no difference exists between the different types of

processing devices which according to claim 1 form part of auxiliary units and the different types of processing devices which can substitute each other according to D3.

- 2.3.3 The Board is, as indicated during the oral proceedings, of the opinion that the understanding of the disclosure of D3 of appellant II (point 2.3.2) goes beyond the direct and unambiguous disclosure of D3 itself. Consequently this understanding may be one to be considered in the examination of inventive step (cf. point 5 below) but not with respect to the examination of novelty. In this respect the understanding of appellant I of what is - directly and unambiguously - disclosed in D3 was considered as correct.

3. *Novelty*

As can be derived from the above assessment of the disclosure of D3 this document does not directly and unambiguously disclose that the known unit has the modular structure as defined by claim 1. Since no further novelty destroying document has been referred to by appellant II the subject-matter of claim 1 is, as indicated in the annex (points 7.3.1, 7.3.2) and contrary to the impugned decision (cf. point IV above) novel (Article 54 EPC).

In view of the result of the examination of inventive step given in the following the issue of novelty requires in any case no further consideration.

4. *Admissibility of D7, D8 - request for remittal in case of their admission*

4.1 According to appellant II D7 and D8 should be admitted despite their late filing since both documents are evidence for general technical knowledge which can, as referred to by the Board in the annex (point 7.5), be of importance in the examination of inventive step. Thus these documents are in response to the annex, are *prima facie* relevant and their content can, since they are mere evidence for general technical knowledge, easily be assessed without procedural delay.

Since the consideration of general technical knowledge neither substantially changes the factual situation nor should it come as a surprise there is no reason for remitting the case.

4.2 According to appellant I D7 and D8 should not be admitted due to their late filing and since both documents are not *prima facie* relevant since they do not relate to modular structures for applying opening devices to packages. Moreover, their admittance would substantially change the factual situation such that remittal of the case for further prosecution by the opposition division, which so far has not considered such general technical knowledge, would be appropriate.

4.3 The Board considers the arguments of appellant II to be more convincing. The general technical knowledge is, as can be seen in the following examination of inventive step, relevant and its relevance is - *prima facie* - evident. The Board also addressed this question in its annex.

4.3.1 Considering e.g. the abstract and the first page of D7 which relate to the frequent use of modular systems in manufacturing machines, i.a. packaging machines, it is evident that in 2004, and thus before the filing date of the patent in suit, the modular design of machines was considered as a well known approach. As effects of this approach minimisation of development and production costs for machines to comply with customer specifications have been mentioned. Problems associated with this approach relate according to this paper to aspects concerning the control of modular structures but not, as alleged by appellant I, the modular structure of machines as such.

4.3.2 On page 8, lines 26 - 36 of D8 it is referred to *"separate machine modules ... which can be replaced by other types of modules"* and the example of *"forming and sealing stations"* which *"can be replaced by modules which make possible the manufacture of packaging containers displaying a different top or bottom design and construction, or alternatively displaying other dimensions"*. Furthermore it is indicated that *"The synchronization of the different mutually cooperating stations is ensured by means of a common control unit. However, this is a per se well known technique which will not be dealt with in any detail in this context."*

4.4 The above portions of D7 and D8 show that these documents are *prima facie* relevant in that this content concerning modular design of packaging machines and the effects of such an approach are easily accessible and understandable. Furthermore, this evidence for the general technical knowledge can easily be dealt with in

the appeal proceedings without conflicting with the principle of procedural economy. Moreover, the general technical knowledge as evidenced by D7 or D8 can be considered in relation to the units of claims 1 of all requests without there being a substantial change of the factual situation when compared with the basis of the impugned decision which, although without further going into detail, refers to consideration of general technical knowledge in the examination of inventive step (reasons, no. 3.2).

4.5 Finally, the Board itself took up the question of general technical knowledge in its annex, to which the supply of supporting evidence by appellant II can be considered an appropriate reaction.

4.6 The Board thus exercises its discretion under Article 13(1) RPBA to admit documents D7 and D8.

Based on the circumstances indicated above admittance of these documents also does not make it appropriate to remit the case. Consequently the request of appellant I for remittal (Article 111(1) EPC is rejected.

5. *Inventive step*

5.1 In the following inventive step will be examined using the well known problem-solution approach commonly applied by the boards of appeal as well as the first instance departments of the EPO.

Applying this method involves the selection of the closest prior art and the determination of the distinguishing features and their effect(s). Based on

the latter the objective problem should be formulated. Finally, it is to be examined whether the solution according to the subject-matter of the claim 1 concerned involves inventive step or not.

5.2 It is undisputed that the unit according to D3 (cf. point 2 above) constitutes the closest prior art.

5.3 The unit according to claim 1 of the patent as granted differs from the one according to D3 in that

(a) said transfer means define a base module of said unit, and in that

(b) said processing means comprise different types of processing devices forming part of different auxiliary modules

(c) which are selectively connectable to said base module to define different units for applying said opening devices to respective said packages.

D3 in turn discloses that a unit for applying opening devices comprises a hot melt dispenser which may be replaced with another means for the adhesion of the opening device to a package (cf. point 2 above).

5.4 It is common ground that the effect of the distinguishing features can be seen in increasing the versatility of the unit as stated in the patent in suit (cf. paragraph [0019]).

5.5 It is further common ground that based on the effect of the distinguishing features the objective technical

problem can be seen as providing a transfer unit which has greater versatility (cf. patent in suit, paragraphs [0019], [0020] and [0022]).

The further effects referred to by appellant I resulting from the modular structure of the unit, namely that the base unit can be used as a common platform for a variety of units or that the modular design enables a much faster change from one type of unit to another cannot be considered in the formulation of the technical problem as required in the problem-solution approach, since they do not directly relate to the distinguishing features as defined above but to the further use of units having a modular structure.

5.6 It remained undisputed that this problem has been solved by the subject-matter of claim 1. The Board sees no reason to deviate from this conclusion.

5.7 For the question whether the unit of claim 1 involves an inventive step starting from the one according to D3 the general technical knowledge as evidenced by D7 and D8 (cf. points 4.3.1 and 4.3.2) needs to be taken into account, as argued by appellant II.

The Board does not find the argument of appellant I convincing that the skilled person would not have used this general technical knowledge since it does not directly relate to the transfer unit as disclosed by D3.

On the contrary, the Board finds in this respect the argument of appellant II more convincing that as proven by D7 and D8 the skilled person was in the possession of this general technical knowledge that it is

generally known to design machines like packaging machines and more particularly such machines as used for the manufacture of packaging containers, by imposing a modular structure. This enables replacement of modules e.g. when a modification of the containers to be handled by these machines takes place (cf. point 4.3.2: "containers displaying a different **top or bottom design or construction**, or alternatively displaying other dimensions").

The Board moreover considers the argument of appellant II to be correct that against the background of this general technical knowledge it is immediately apparent that to achieve greater versatility the unit of D3 should be designed as having a modular structure, allowing the simple substitution of the hot melt adhesive dispenser by an other means for providing adhesion of the opening device to the top of the container.

The problem to be solved (see point 5.5 above) starting from the unit of D3 as closest prior art is thus solved in an obvious manner by utilising the modular design approach generally known and evidenced by D7 and D8.

Taking this approach it is apparent that within a modular structure applied to the unit of D3 elements of this unit which remain unaffected by the exchange of the "means for adhesion of a fitment" will be arranged in one module, called for example base module. Further the elements which should be exchangeable should also be arranged in modules, called for example auxiliary modules, which are selectively connectable to the base module. Proceeding in this manner it is evident that,

corresponding with features (a) - (c) of claim 1, not only different units for applying said opening devices to respective packages are defined, but also the transfer unit itself .

The subject-matter of claim 1 according to the main request thus does not involve an inventive step (Article 56 EPC).

5.8 The above result holds true considering also the following arguments of appellant I.

5.8.1 According to one argument D3 does not give any information as to why and when a substitution of the means for applying adhesive to the opening devices (hot melt dispenser like a dispenser gun; fitment heater etc.) takes place and thus has a gap in its disclosure which cannot be filled considering general technical knowledge.

Concerning the alleged gap in the disclosure it is true that D3 does not give a reason for the substitution of the means that provide adhesion to the opening devices.

The Board finds, however, the opinion of appellant II more convincing that, without having to resort to the general technical knowledge as evidenced by D7 or D8, it is immediately apparent for the skilled person, considering the disclosure of D3, that the main reason for replacing these means will be a change of the type of opening devices that is used.

Concerning the alleged gap in the disclosure it is also true that D3 leaves it open when such a replacement takes place.

The Board in this respect finds the opinion of appellant II also more convincing that in this technical field, where differing customer specifications are quite common, the design of the unit of D3 as a modular unit right at the beginning of the design process is at least an obvious option, in order to properly take account of such specifications. It is, depending on circumstances, even mandatory if the customer specification requires that a unit provides the possibility to switch between one or the other adhesion providing means.

For completeness' sake it is referred to D8 (cf. point 4.3.2) according to which a replacement of modules in a packaging line is envisaged when the design and construction of a package or its dimensions are changed.

Concerning the use of general technical knowledge to fill the mentioned gaps, if at all present in the disclosure of D3, the Board wishes to draw attention to the fact that in the present case for that purpose no specific knowledge going beyond the general technical knowledge is required. The possible gaps in the disclosure of D3 relate to simple questions: for what purpose or under which condition and when is it required to substitute the adhesion providing means. If these questions leave a design choice they can be answered, without inventive skills being involved, by the skilled person. In case customer specifications call for the possibility to substitute the means in

question there is not even a design choice but only one answer.

For completeness' sake the Board notes that it goes without saying that considering the teaching of D3 in combination with the general technical knowledge as evidenced by D7 or D8 it is evident that not only the adhesion providing means explicitly referred to in D3 can be arranged in auxiliary modules which are selectively connectable to a base module but correspondingly all elements which require modification as a result of e.g. a change of the opening devices.

5.8.2 According to a further argument of appellant I the person skilled in the art had, even if it is considered that the teaching of D3 is taken into account together with the general technical knowledge as given by D7 or D8, no reason for a modular design of the unit of D3 as defined by claim 1, namely with the transfer means as a base module and different auxiliary modules comprising different types of processing devices.

The Board in this respect finds the argument of appellant II more convincing that applying the concept of a modular design known from general technical knowledge in the packaging field to any machine used in a packaging line, including the unit according to D3, a choice has to be made as to the manner in which the elements constituting the machine are brought together and that this choice will be guided by the obvious understanding underlying a modular structure that elements which do not require modification are placed in one module, which can be called base module, whereas elements which are subject to change, like the means

for providing adhesion according to D3, are arranged in modules, which can be called auxiliary modules, and selectively be connected to the base module. This approach is, as outlined by appellant II during the oral proceedings, indeed one of the key aspects of any modular design and of any structure resulting therefrom, as can also be concluded from D8 (cf. point 4.3.2).

5.8.3 In this respect the Board does not find the argument of appellant I convincing that the unit as disclosed in D3 is, since its elements are contained in a housing (column 4, lines 30 - 48; figure 2: housing 21), not suited for a modular design. For the Board the provision of a housing and the application of modular design cannot be considered as aspects of a machine which are mutually excluding one another. If it is desired, e.g. for one of the reasons given in D3, to provide for a housing then it can be arranged in an obvious manner either such that all modules are contained in the housing or only some. Obviously, also windows or doors can be provided in the housing to enable easy access to modules as argued by appellant II. Concerning the unit of the patent in suit it is, as pointed out during the oral proceedings, hardly imaginable that the units as shown in figures 1 and 9, with their fast moving parts, are in practice without the housing normally foreseen is such a situation to minimise safety hazards or noise or other emissions into the environment.

The Board furthermore finds the opinion of appellant II to be convincing that the housing of D3, even if a control panel may be applied to it (column 4, lines 43 - 48) as referred to by appellant I, does not pose

particular technical difficulties or even a prejudice against a modular structure of the unit concerned. It can simply be programmed also for other modules. The argument was in any case raised by appellant I without being further supported by facts.

5.8.4 The not further supported argument of appellant I that the conclusion: lack of inventive step in view of D3 and general technical knowledge could only be arrived at based on hindsight is moot considering the application of the problem-solution approach as outlined (cf. points 5.1 - 5.7) and applied above.

5.8.5 The further argument of appellant I that a unit like the one of D3 can obviously be modified without having to resort to a modular design or a redesign of this unit, namely by selectively replacing elements - not modules - as required and as explicitly stated in D3 (column 5, lines 5 - 19) is, as indicated by the Board during the oral proceedings, correct. This, however, does not apply to the conclusion it draws in connection with this argument, namely that since one obvious approach exists for the person skilled in the art a further one, namely the provision of the unit of D3 in a modular structure, cannot be regarded as being obvious. As indicated by the Board only the solution according to the subject-matter of the claim under consideration needs to be examined as to whether it is obvious or not and, as can be derived from the above, for the subject-matter of claim 1 concerned the result of that examination is that it is obvious.

6. *Inventive step concerning the subject-matter of claim 1 of the first auxiliary request (claim 1 of the patent as maintained)*

6.1 According to the impugned decision the unit according to this claim 1 involves inventive step starting from D3 as closest prior art and further considering i.a. D4 and general technical knowledge (reasons, points 3.1, 3.2). In its examination of inventive step the opposition division apparently relied on the result of the examination of inventive step concerning a solution which differs from the one as defined in the claim 1. It indicated: "that adjustment of the unit which is also found in D4, is the cheapest and the most straightforward possibility which the skilled person would select, depending on the circumstances, without exercising inventive skill, in order to solve the problem posed". From such an examination normally no conclusion can be drawn with respect to the different solution as defined by the subject-matter of claim 1 of this request (cf. point 5.8.5).

6.2 As indicated in the annex (point 7.6.1) this claim 1 differs from claim 1 of the patent as granted in that the additional features of claim 6 have been added (now the sole characterising features).

Accordingly, the first conveying means define different auxiliary modules for operating with different types of opening devices and selectively connectable to the base module.

6.3 Concerning the examination of inventive step the features already comprised in claim 1 of the patent as

granted cannot lead to subject-matter involving inventive step as indicated by the Board during the oral proceedings.

The additional features that said first conveying means define different auxiliary modules for operating with different types of opening devices and selectively connectable to said base module have the effect referred to already in respect of the distinguishing features of claim 1 of the main request (point 5.4), namely to increase the versatility of the unit.

Consequently the objective technical problem does not differ from the one formulated above (point 5.5) for the unit of claim 1 of the main request: providing a unit with increased versatility.

6.4 The Board does not find the argument of appellant I convincing that it involves an inventive step that the first conveying means define different auxiliary modules for operating with different types of opening devices.

It finds the argument of appellant II more convincing that it comes with the very idea of modular design to arrange parts to be changed into one module (cf. point 4.3.2 above) in case the unit is to be modified, like the first conveying means for feeding the opening devices, if these devices are changed with respect to form and or/size. It would run counter to that idea of modular design to not to act in this manner.

The subject-matter of claim 1 of the first auxiliary request thus does not involve an inventive step (Article 56 EPC).

7. *Admissibility of the second to fourth auxiliary requests*

7.1 The second and fourth auxiliary requests were filed with letter dated 19 July 2013. The third auxiliary request was filed during the oral proceedings to replace the previous third auxiliary request filed with letter dated 19 July 2013. The subject-matter of present claim 1 of this request differs from the one of the previous third auxiliary request in that the feature "*said base module (M_1) in turn comprising a conveyor wheel (10) and a central body (16) of a supporting structure (15) of said unit (1, 1')*" which was only comprised with respect to the first configuration had to be introduced also in the definition of the second configuration. This amendment has been made in response to the essential objection of appellant II against admittance of this request.

7.2 The claims 1 of the second and third auxiliary requests differ from claim 1 according to the first auxiliary request (claim 1 of the patent as maintained according to the impugned decision) essentially in that the different types of processing devices have been further defined as encompassing at least one dispensing gun or a coating roller and in that elements forming part of auxiliary modules have been further defined.

The subject-matter of these claims 1 can thus be considered as further defining the subject-matter of

claims 1 of the previous requests in a convergent manner and since no further objection has been raised concerning the admittance of these requests the Board exercised its discretion under Article 13(1) RPBA to admit them.

- 7.3 Claim 1 of the fourth auxiliary request does not further define the processing devices or the elements forming part of auxiliary modules. Instead elements forming part of the base module are further defined.

The subject-matter of this claim 1 thus cannot be considered as further defining the subject-matters of the claims 1 of the previous requests in a converging manner. This holds true irrespective of the offer of appellant I to introduce claim 6 of the patent as granted into claim 1.

The Board considers the filing of the fourth auxiliary request, which would require new aspects to be taken into account at the oral proceedings, as being contrary to an efficient conduct in appeal proceedings and thus exercises its discretion under Article 13(1) RPBA to not admit it.

8. *Inventive step concerning the subject-matter of claims 1 of the second and the third auxiliary request*

The claims 1 of the **second and third auxiliary requests** differ from claim 1 according to the first auxiliary request essentially in that features have been added by which the elements comprised and grouped within the different auxiliary requests are further defined in detail.

According to appellant I these additional features are based on choices going well beyond routine considerations in devising a modular structure for the unit of D3.

The Board finds the counterargument of appellant II more convincing that the design choices underlying the additional distinguishing features are - as far as they are not dictated by the very idea underlying a modular design (cf. point 6.3) to arrange elements to be changed in case the opening devices are modified in easily selectively connectible (auxiliary) modules and by the very nature of the elements to be arranged in a module - based on arbitrary design considerations.

Based on this understanding the Board considers e.g. the feature of claim 1: "at least one of said auxiliary modules comprises the respective said processing device and said first conveying means" and "said dispensing member of said one of said auxiliary modules comprising at least one dispensing gun located along said first path and which travels along a predetermined path to distribute adhesive on each said opening device" as being the result of a straightforward application of the modular design approach. Applying this approach there is a clear incentive (cf. point 4.3.2) to group elements into one unit if these elements need to be changed in case the opening devices are changed.

As discussed during the oral proceedings the circumstances - e.g. concerning the manner in which different types of dispensing members (dispensing gun / coating roller) have to be arranged due to their

specific nature (resulting e.g. from the effect of gravity forces acting on the adhesive) - are such that the first conveying means can be arranged with a dispensing member in the form of at least one dispensing gun in one module whereas, depending on the position of the first conveying means (cf. figures 1, 9 of the patent in suit) apparently the combination of the first conveying means with a dispensing member in the form of a coating roller is not possible.

Thus the grouping of the elements in modules according to the subject-matters of the claims 1 of both requests is as argued by appellant II the result of the application of a modular structure with the intention to group all elements (that have to be changed in case the opening devices are modified) into one module, the intention being limited by constraints resulting from the nature of these elements as such.

Thus the arrangement of the first conveying means and the dispensing member in the form of a coating roller in different modules needs to be seen as dictated by the constraints resulting from the very nature of the coating roller and not as the result of an inventive design choice having the result, in combination with the joint arrangement of the first conveying means with one or more dispensing guns, of reducing the number of interfaces as argued by appellant I. As discussed during the oral proceedings it is evident from a comparison of D3 and D4 that dispensing guns and coating rollers are due to the different manner in which gravity forces act on the adhesive, in both cases normally arranged at different positions with respect to the opening devices to which the adhesive is to be

applied (cf. D3, figure 1: dispensing gun 28 located above a part of the first conveying means 24 in a manner corresponding to the first configuration - cf. figure 1 of the patent in suit; D4, figure 1: coating roller 14 located alongside a part of the first conveying means 12 in a manner corresponding to the second configuration - cf. figure 9 of the patent in suit).

The further additional features of claim 1 according to the **third auxiliary request** essentially further define the structure of the transfer means constituting the base module and the unit in its first and second configuration more precisely. The features concerning the structure of the base module cannot render, as discussed during the oral proceedings, this structure to be involving inventive step. They do, moreover, not affect the modular structure of the unit. Correspondingly the features defining the first and second configuration more precisely do not contribute in substance to the further definition of the modular structure.

In the context of the modular structure of the unit defined by this claim 1 these features thus cannot be considered as contributing to subject-matter involving inventive step. In fact, it has neither been argued nor is it apparent that these features do so, outside the context of modular design.

Thus for the reasons given above the subject-matters of the claims 1 of the second and third auxiliary request do not involve an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

1. The appeal of appellant I (patent proprietor) is dismissed.
2. The decision under appeal is set aside.
3. The patent is revoked.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders